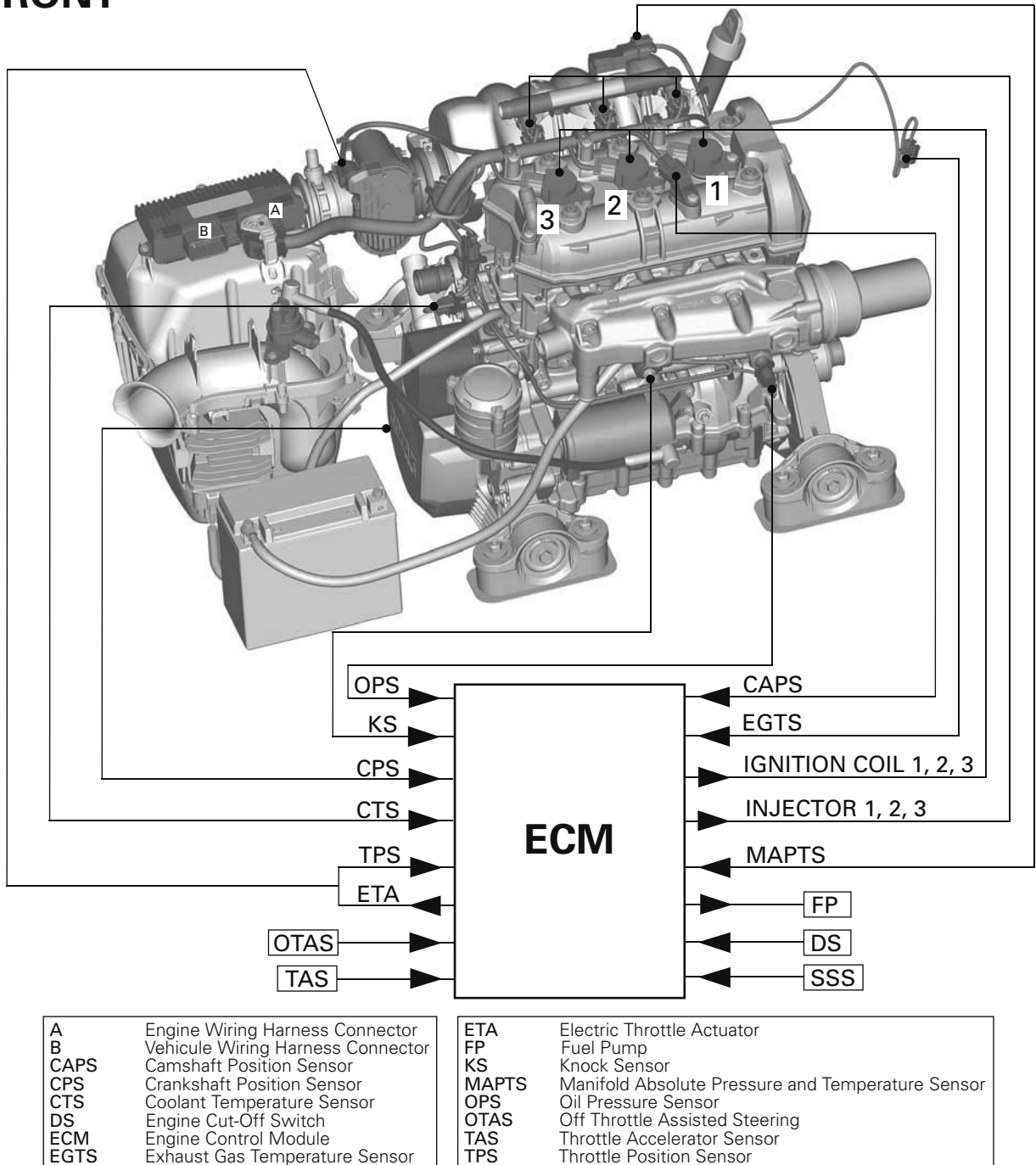


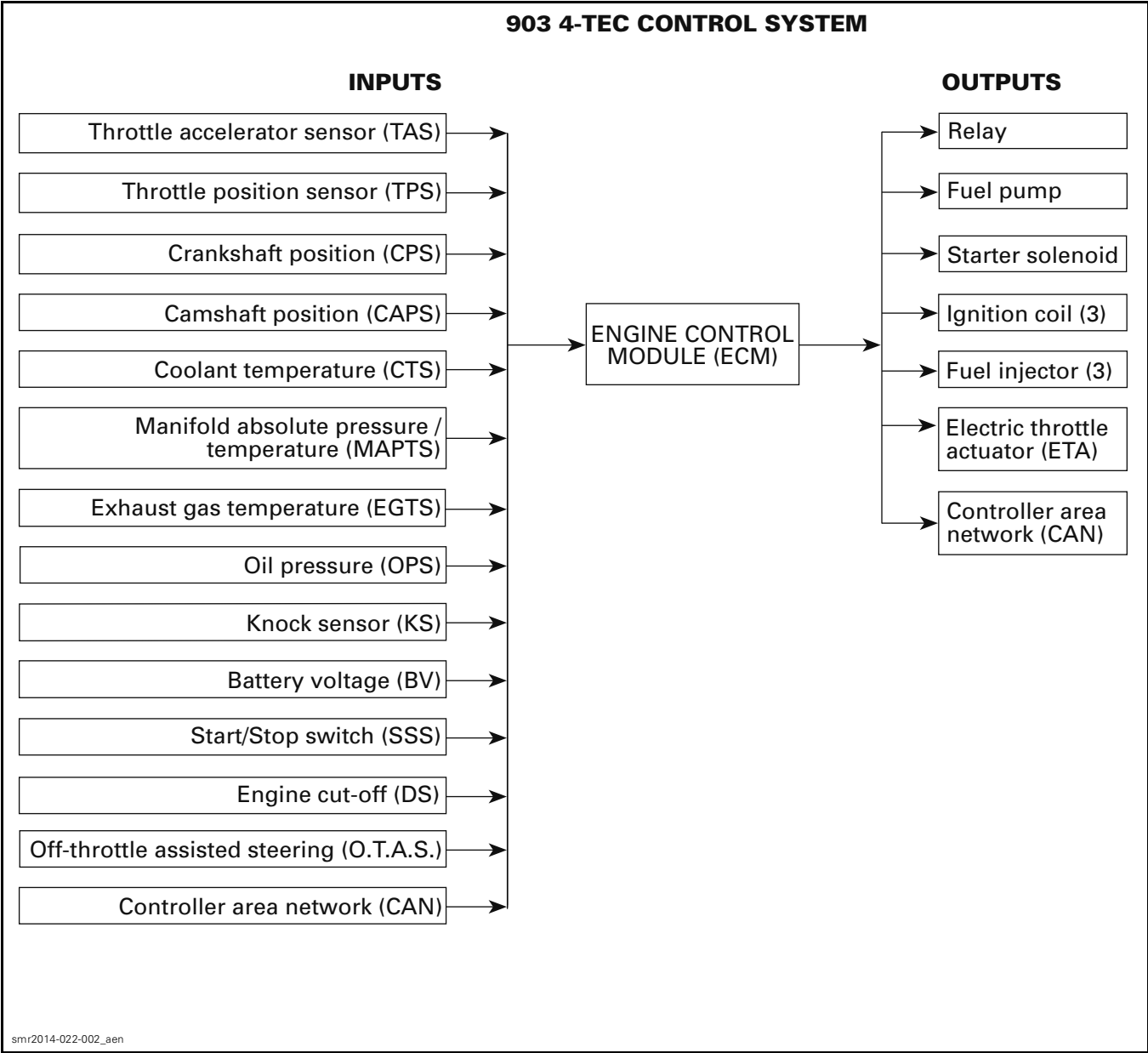
ENGINE MANAGEMENT SYSTEM

FRONT



smr2014-022-003_aen

Section 03 ELECTRONIC MANAGEMENT SYSTEMS
Subsection 01 (ENGINE MANAGEMENT SYSTEM)



GENERAL

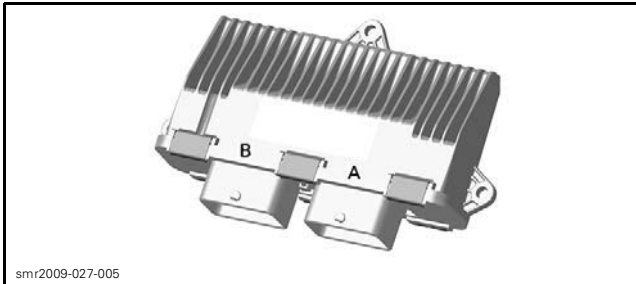
SYSTEM DESCRIPTION

A highly advanced engine management system (EMS) is used to ensure a high power output with cleaner combustion.

There are 5 main systems that interact with the engine management system:

1. Electronic fuel injection
2. Ignition System
3. Starting System
4. O.T.A.S.
(Off-Throttle Assisted Steering)
5. iControl System

Engine Control Module (ECM)

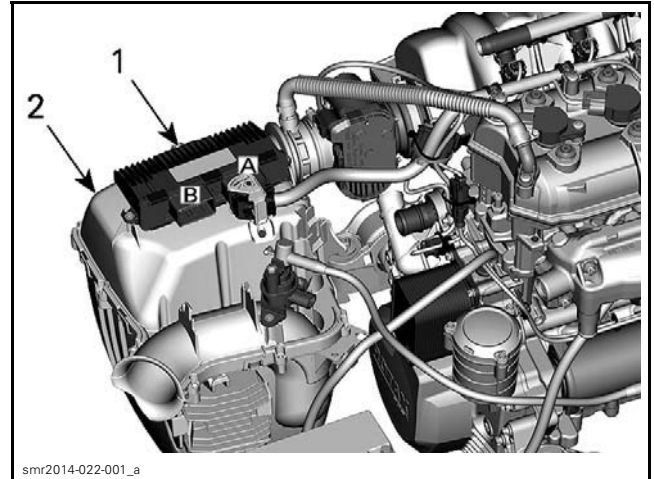


ECM

The ECM is the main component of the engine management system. It controls the electrical system and the engine management functions by processing the information obtained from various switches, controls and sensors that it compares to predetermined parameters stored in the ECM.

It also interacts with the other electronic systems through the CAN bus (multifunction gauge and iControl System) for various functions that affect engine management.

The ECM is mounted on the air intake silencer.



1. ECM
2. Air intake silencer

A. Connector "A" (Engine harness)
B. Connector "B" (Vehicle harness)

It features a permanent memory that will store fault codes, customer information and other engine information, even when the engine is stopped and the battery is removed from the vehicle.

The ECM controls the following engine management functions:

Throttle Protection

If the throttle is not completely closed during engine startup, the engine will not start.

To revert to normal operation, completely release the throttle lever.

Engine RPM Limiter

The ECM monitors engine RPM through the CPS and CAPS. It then varies fuel injection, ignition and throttle plate opening as necessary to limit maximum engine speed.

Engine Speed Control

The ECM controls the engine idle RPM. In addition, it can vary the engine speed by commanding the electronic throttle actuator (ETA) to open or close based on throttle position and various other inputs. The ETA also allows for other functions of the iControl system.

Drowned Mode

If the engine is flooded and does not start, this special mode can be activated to prevent fuel injection and ignition while cranking in order to ventilate the engine to dry the cylinder walls.

NOTE: This mode can also be used if the engine is water-flooded.

Section 03 ELECTRONIC MANAGEMENT SYSTEMS

Subsection 01 (ENGINE MANAGEMENT SYSTEM)

To activate DROWNED MODE, proceed as per following steps.

1. Install the tether cord cap on the engine cut-off switch.
2. While the engine is stopped, fully pull in and HOLD the throttle lever.
3. Press the START/STOP button. DROWNED MODE is now on.

Releasing the throttle lever will allow the ECM to revert back to normal mode.

If the engine does not start, it may be necessary to disable the ignition system, remove the spark plugs and crank the engine with rags over the spark plug holes. Refer to *IGNITION SYSTEM* subsection.

Monitoring System

The ECM monitors:

- The electrical and electronic components of the engine system
- The iControl system
- The multifunction gauge
- Some components of the electrical system

For more information, refer to *DIAGNOSTIC AND FAULT CODES*.

Limp Home Mode

The ECM may automatically set the engine in LIMP HOME MODE using default parameters when certain major faults are detected. For more information, refer to *DIAGNOSTIC AND FAULT CODES*.

Diagnostic Mode

The ECM features a self-diagnostic mode that is initiated on system power up for certain systems and components (when pressing the START button), and when the engine is running for others. Refer to *DIAGNOSTIC AND FAULT CODES* subsection for more information.